## **COMPLIANCE FORMS AND WORKSHEETS WORKSHEET (WS-1) BASELINE WATER USE** Date: 4/15/2014 Project: VA HEALTH PSYCOHOSOCIAL Building HEALTH CARE Project No: 11-1098 BASELINE WATER USE CALCULATION TABLE OCCUPANTS<sup>3,</sup> RATE **FIXTURE TYPE DURATION** DAILY USES PER DAY Showerheads 5 min. owerheads residential Lavatory faucets Lavatory faucets 0.25 min. Kitchen faucets 4 min. 244.9 2.2 Replacement aerators Wash fountains 2.2 X 0.0 0.25 min. **0.25** X Metering faucets Metering faucets for 0.25 min. wash fountains ravity tank type water 1 flush 0.0 ıshometer tank water 712.5 111 1 male <sup>1</sup> 3 female shometer valve water Electromechanical nydraulic water closets 111.3 1 flush 2 male X 1388.8 Total daily baseline water use (BWU) <u>1388.8</u> (BWU) X .80= <u>1111.0</u> Allowable water use 1. The daily use number shall be increased to three if urinals are not installed in the room. 2. The flow rate is from the CEC appliance Efficiency Standards, Title 20 *California Code of Regulations*; where a conflict

**COMPLIANCE FORMS AND WORKSHEETS** 

3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus

4. For nonresidential occupanicies, refer to Table A, Chapter 4, 2013 California Plumbing Code , for occupant load factors.

occurs, the CEC standards apply.

one additional person for each additional bedroom

		20 P	WORKS ERCENT R			TER			
Date:	4/15/2014	Project:	VA HEALTH PSYCOHOSOCIAL	Building	REHAB AND HEALTH CARE		Project No:	11-1098	
		BASE	LINE WATER U	JSE CAL	CULATION TA	BLE	_		
FIXTURE TYPE	FLOW RATE (gpm) <sup>2</sup>		DURATION		DAILY USES		OCCUPANTS <sup>3,</sup>		GALLON: PER DAY
Showerheads	1.5	х	5 min.	х	1	Х	22	=	167.0
Showerheads residential	1.5	х	8 min.	х	1	Х	О	=	0.0
Lavatory faucets residential	1.5	х	0.25 min.	х	3	Х	О	=	0.0
Lavatory faucets nonresidential	0.35	х	0.25 min.	х	3	Х	111	=	29.2
Kitchen faucets	1.5	Х	4 min.	х	1	Х	28	=	167.0
Replacement aerators	1.5	X		х		Х	О	=	0.0
Wash fountains	1.5	х		х		Х	o	Ξ	0.0
Metering faucets	0.25	х	0.25 min.	х	3	Х	О	=	0.0
Metering faucets for wash fountains	1.0	х	0.25 min.	х		Х	О	=	0.0
Gravity tank type water closets	1.60	х	1 flush	х	1 male <sup>1</sup> 3 female	Х	О	=	0.0
HET <sup>5</sup> High efficiency toilet	1.28	х	1 flush	х	1 male <sup>1</sup> 3 female	Х	111	=	570.0
Flushometer tank water closets	1.60	х	1 flush	х	1 male 1 3 female	Х	О	=	0.0
Flushometer valve water closets	1.60	х	1 flush	х	1 male 1 3 female	Х	О	=	0.0
Electromechanical hydraulic water closets	1.60	х	1 flush	х	1 male <sup>1</sup> 3 female	х	О	=	0.0
Urinals	0.125	х	1 flush	х	2 male	Х	56	=	13.9
Urinals nonwater supplied	0.0	х	1 flush	Х	2 male	х	О	=	0.0
			Proposed water u	ise				=	947.1
		<u>1388.8</u>	(BWU) X .80=	1111.0	Allowable water	use			

2. The flow rate is from the CEC appliance Efficiency Standards, Title 20 California Code of Regulations; where a conflict occurs, the CEC standards apply. 3. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus

one additional person for each additional bedroom 4. For nonresidential occupanicies, refer to Table A, Chapter 4, 2013 California Plumbing Code , for occupant load factors.

5. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.

Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19.233.2.

Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.

## DOMESTIC WATER DEMAND AND PIPE SIZING

DATE: 4-15-14 PREPARED BY: P.C.D. PROJECT: VÄ HEALTH PSYCHOSOCIAL REHAB. REC. LOCATION: FRESNO, CA Water Meter Size 3" Total Fixture Units: 99.5 TOTAL GPM: 67.0 Total Distance from water meter to most remote plbg. fixture. 210 ft. PSI flow loss through backflow preventer Remaining PSI available (if negative use booster pump) . . . . 28.1 PSI Use line 13.5 On Chart

PIPE SIZE (IN.)	WILL DELIVER (GPM)	FOR F.V. (F.U.)	FOR FT (F.U.)
6"			
5"			
4"			
3"			
2-1/2"			
2"	80	155	275
1-1/2"	50	49	128
1-1/4"	37	23	75
1"	21		33
3/4"	12		15
1/2"	5		6

F.V. = Flushometer Valve

F.T. = Flush Tank IPC 2009, APPENDIX E

	T		
NO. OF FIX.	TYPE OF FIXTURE	W.S.F.U./FIX.	TOTAL W.S.F.U
	BATHTUB	3.0	
	CLOTHESWASHER	3.0	
1	DISH WASHER (COMM.)	1.5	1.5
2	DRINKING FOUNTAIN (2) BUBBLER	1.0	2.0
1	HOSE BIBB	2.5	2.5
11	HOSE BIBB (EA. ADDITION)	1.0	11.0
1	KITCHEN SINK	1.5	1.5
	KITCHEN SINK 3- COMP. (POT)	3.0	
	LAUNDRY SINK	1.0	
9	LAVATORY	1.0	9.0
2	MOP SINK	3.0	6.0
	SERVICE SINK	2.25	
2	SHOWER	2.0	4.0
2	SINK	2.0	4.0
2	URINAL	4.0	8.0
	WASHFOUNTAIN	4.0	
	WATER CLOSET (F. TANK)	2.5	
10	WATER CLOSET (F. VALVE)	5.0	50.0
	FUTURE		
		TOTAL	99.5

DRAIN NO.	AREA COVERED	MAX. AREA ALLOWED	SIZE
1-A	1650	3760	4"
1-B	4555	6680	5"
1-C	2884	3760	4"

1/8" / FT. SLOPE.

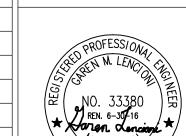
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MARK	FIXTURE	S or W	V	CW	HW	DESCRIPTION
37-WC-1	WATER CLOSET	3"	2"	1-1/4"		ZURN MODEL Z5615 BWL, 1.28 GPF WALL MOUNTED TOILET WITH ZER6000AV—HET—CPM BATTERY SENSOR FLUSH VALVE, COMPLETE WITH Z5955SS—EL OPEN FRONT SEAT. (OR EQUAL)
37-WC-2	WATER CLOSET	3"	2"	1-1/4"		ZURN MODEL Z5615 BWL, 1.28 GPF WALL MOUNTED TOILET WITH ZER6000AV—HET—CPM BATTERY SENSOR FLUSH VALVE, COMPLETE WITH Z5955SS—EL OPEN FRONT SEAT. MOUNT PER ADA REQUIREMENTS. (OR EQUAL)
37-U-1	URINAL	2"	1-1/2"	1/2"		ZURN Z5798.235.00 WALL-HUNG FLUSH RIM, 3/4" TOP SPUD WITH ZER6003AV-ULF-CP BATTERY OPERATED SENSOR FLUSH VALVE, AND WALL MOUNTED CARRIER ZURN Z1222. URINAL SHALL EXTEND MIN. OF 14" FROM WALL. RIM AT (+) 17" A.F.F. ADA COMPLIANT. 1/8 GPF. (OR EQUAL)
37-L-1	LAVATORY	2"	1-1/2"	1/2"	1/2"	ZURN Z5344-PED WALL-HUNG, 20"X18" VITREOUS CHINA WITH BACKSPLASH & WALL BRACKET, SINGLE HOLE, SLOAN SF2200-4-BMD SENSOR FAUCET WITH NEOPERL PCA SPRAY #40.7068.733 0.35 GPM AERATOR AND Z87743-PC PERFORATED GRID DRAIN, P-TRAP, SPEEDWAY COMPRESSION WALL STOP & SUPPLY TUBING. SET MV TO DELIVER 110'F WATER. ADA COMPLIANT. (OR EQUAL)
< 37−L−2 >	LAVATORY	2"	1-1/2"	1/2"	1/2"	ZURN Z5220 UNDERMOUNT 19"X16"X6" WITH SLOAN SF2200-4-BMD SENSOR FAUCET WITH NEOPERL PCA SPRAY #40.7068.733 0.35 GPM AERATOR AND Z8743-PC PERFORATE GRID DRAIN. P-TRAP, SPEEDWAY COMPRESSION WALL STOP AND SUPPLY TUBING. SET MV TO DELIVER 110'F WATER. ADA COMPLIANT. (OR EQUAL)
< 37−S−1 >	SINK	2"	1-1/2"	1/2"	1/2"	JUST USF-ADA-1824-A-GR, 18 GA STAINLESS STEEL, UNDERMOUNT SINGLE COMPARTMENT, 16"X22"X6-1/2" BOWL, WITH ADA-35-FS PERFORATED GRID DRAIN, ZURN Z871C6-XL-16F LEAD FREE 8" GOOSENECK SWING LEVER FAUCET, 1.0 GPM, SPEEDWAY COMPRESSION WALL STOPS & SUPPLY P-TRAP. ADA COMPLIANT. (OR EQUAL)
37-S-2	KITCHEN SINK	2"	1-1/2"	1/2"	1/2"	JUST UDF-ADA-1832-A-GR, 18 GA STAINLESS STEEL UNDERMOUNT DOUBLE COMPARTMENT, (2)14"X16"X6-1/2" BOWLS WITH TWO J-35GS BASKET STRAINERS AND ZURN Z871C6-XL-16F LEAD FREE 8" GOOSENECK SWING LEVER FAUCET. 1.0 GPM. ADA COMPLIANT. (OR EQUAL)
37-S-3	EXAM SINK	2"	1-1/2"	1/2"	1/2"	JUST US-ADA-1618-A, 18 GA STAINLESS STEEL UNDERMOUNT SINGLE COMPARTMENT, 14"X16"X5-1/2" BOWL WITH J-35GS BASKET STRAINER AND ZURN Z824BO-XL-16F LEAD FREE 6" GOOSENECK SWING LEVER FAUCET. 1.0 GPM. ADA COMPLIANT. (OR EQUAL)
37−DF−1	REFRIG. DRINKING FOUNTAIN	2"	1-1/2"	1/2"		HAWS H1011.8 RECESSED HIGH-LOW UNIT WITH STAINLESS STEEL SATIN FINISH RECEPTOR, BACK PANEL AND HCR8 CHILLER. CAPACITY: 8.0 GPH AT 50°F, 80°F INLET WATER & 90°F AMBIENT AIR, 115/1, MOUNTED WITH 27" CLEARANCE UNDER APRON. ADA COMPLIANT. (OR EQUAL)
37−MS−1	MOP SINK	3"	1-1/2"	3/4"	3/4"	ACORN TCR-28 CORNER MOUNT 28"X28" WITH ALUMINUM RIM GUARD. PROVIDE CAST BRASS DRAIN BODY STRAINER, ZURN Z841M1-RC FAUCET WITH VACUUM BREAKER, HOSE END, BUCKET HOOK, INTEGRAL SERVICE STOPS, AND WALL BRACE. P-TRAP. (OR EQUAL)
37−SH−1	ADA SHOWER			3/4"	3/4"	FLORESTONE MODEL 35-62H SHOWER STALL WITH SYMMONS PRESSURE BALANCE MIXING VALVE WITH CONCEALED CHECK STOPS; MOEN HAND-HELD SHOWER HEAD WITH HOSE AND CHROME-PLATED SLIDE BAR; STAINLESS STEEL CORNER GRAB BAR; STAINLESS STEEL RECESSED SOAP DISH; WHITE NAUGAHYDE FOLDING WHEELCHAIR TRANSFER SEAT. SET TEMPERATURE BALANCING VALVE TO DELIVER A MIXED WATER OF 115 F. 1.5 GPM. ADA COMPLIANT. (OR EQUAL)
37−HB−1	HOSE BIBB			3/4"		BRASS FAUCET, LOOSE KEY HANDLE, & NON-REMOVABLE VACUUM BREAKER, & POLISHED CHROME IN MODULAR BOX. WOODFORD MB24P-3/4 WITH WALL FLANGE AT WALLS. (OR EQUAL)
37-HB-2	HOSE BIBB			3/4"		BRASS FAUCET, LOOSE STANDARD AND NON-REMOVABLE VACUUM BREAKER & ROUGH CHROME FINISH FOR OUTDOORS. WOODFORD Y24 STAND PIPES. (OR EQUAL)
37-SB-1	SUPPLY BOX			1/2"		SIOUX CHIEF 696-1010 RECESSED WATER SUPPLY BOX WITH FRAME, SHUTOFF VALVE WITH ARRESTER. (OR EQUAL)
37-SB-2	SUPPLY BOX				1/2"	SIOUX CHIEF 696-1011 RECESSED WATER SUPPLY BOX WITH FRAME, SHUT-OFF VALVE AND ARRESTER. (OR EQUAL)
37-TP-1	TRAP PRIMER			1/2"		PRECISION PLUMBING PRODUCTS INC. PR-500 BRASS DIAPHRAGM TYPE TRAP PRIMER WITH INTEGRAL VACUUM BREAKER AND GRAVITY OUTLET. PROVIDE INLET BALL VALVE AND ACCESS PANEL. SEE PLANS FOR NUMBER OF TRAPS SERVED. (OR EQUAL)
37-WHA-1	WATER HAMMER ARRESTER			VARIES	VARIES	SIOUX CHIEF 650 SERIES HYDRA—RESTER, SEAMLESS COPPER CHAMBER SUITABLE FOR CONCEALED INSTALLATION, PDI SIZE INDICATED ON PLANS. INSTALL PER MANUFACTURER RECOMMENDATION. (OR EQUAL)
37-WH-1	WATER HEATER			3/4"	3/4"	RHEEM RTGH-95V WALL MOUNTED, TANKLESS WATER HEATER, INDOOR MODEL, OUTDOOR VENT CAP, 0.4-5.0 GPM AT 70°F TEMP. RISE WITH 11-199 MBH INPUT, OP. WT. 80 LBS. UNI SHALL BE UL APPROVED. SET OUTLET TEMP. AT 120°F, 120V/1 PHASE, 0.8 AMPS, REMOTE CONTROLLER. FUEL NATURAL GAS. (OR EQUAL)
37−ET−1	EXPANSION TANK			3/4"		AMTROL ST-5-C THERM-X-TROL EXPANSION TANK, MAXIMUM WORKING PRESSURE 150 PSIG, 2.1 GALLONS TOTAL VOLUME, 40 LBS. OPERATING WEIGHT. (OR EQUAL)
37-CP-1	CIRCULATING PUMP				3/4"	PIPE MOUNTED CIRCULATOR WITH CERAMIC SHAFT FOR 5 GPM AT 8' TDH, 115/1. B&G NBF-12 U/LW WITH B&G MODEL TC-1 AUTOMATIC TIMER KIT, AQ-1/2" AQUASTAT. (OR EQUAL)
37-FD-1	FLOOR DRAIN	2"	1-1/2"	TP		ZURN Z415-5B-P COATED CAST IRON WITH 5" ROUND BRONZE GRATE WITH VANDAL PROOF SCREWS, DOUBLE DRAINAGE FLANGE & NO HUB OUTLET, P-TRAP WITH TRAP PRIMER CONNECTION. (OR EQUAL)
37-FS-1	FLOOR SINK	2"	1-1/2"	TP		ZURN Z1910-KC-32-P COATED CAST IRON WITH ACID RESISTANT PAINTED INTERIOR, 8" SQUARE TOP, 6" DEEP, DOUBLE DRAINAGE FLANGE, NO HUB OUTLET & ALUMINUM DOME STRAINER, P-TRAP, 3/4 GRATE, TRAP PRIMER CONNECTION. (OR EQUAL)
37-RD-1	ROOF DRAIN/ OVERFLOW	3"				ZURN Z165 CAST IRON COMBINATION RD/OD WITH DECK PLAT DOME GRATE OVER BOTH DRAINS AND 2" WATER DAM AT OVERFLOW. (OR EQUAL)
37-RR-1	ROOF RECEPTOR	3"	1-1/2"			ZURN Z127 CAST IRON INDIRECT WASTE RECEPTOR WITH INTERNAL DOME STRAINER. (OR EQUAL)

PLUMBING FIXTURE SCHEDULE

PLUMBING SCHEDULES & CALCULATIONS 1/8" = 1'-0"

4



one eighth inch = one foot

0 4 8 16



3



wing Title	Project Title	Proj
LUMBING SCHEDULES &	Mental Health Psychosocial	57
CALCULATIONS	Rehab Recovery and Health Care for Homeless Veteran Center	Buik
proved: Project Director	Location 2615 E. CLINTON AVE, FRESNO, CA 93703	Drav

REGULATOR

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Office of Construction and Facilities Management:

Department of Veterans Affairs

ARCHITECT/ENGINEERS:

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PD, GL

Dwg. of

AMERICAN METER #1813-C, 3/4" INLET AND OUTLET WITH

--- 3/16" ORIFICE GAS PRESSURE REGULATOR.